

September 26, 2008

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

**Re: Ex Parte Regarding FedEx Field White Space Prototype Tests,
ET Docket No. 04-186, Jeffrey Willis, Coordinating Technical Manager,
ESPN**

Dear Ms. Dortch:

ESPN has been an active participant in the FCC's "white spaces" proceeding and we remain very concerned about the outcome of this proceeding. We have maintained consistently that the various proposals will cause interference to over-the-air digital television reception and to wireless microphones that are used for the production of live sports events.

Recently, ESPN was pleased to be invited by the FCC to participate in a white space device "field test" at FedEx Field in early August. ESPN thus far has not commented publicly on those tests, out of respect for the engineers in the Commission's Office of Engineering and Technology ("OET") and the integrity of that testing process. However, in light of the inaccurate test summaries released by the White Spaces Coalition and the Wireless Innovation Alliance, ESPN feels compelled to clarify for the record the test protocol and results from FedEx Field.

Based on my first-hand observations, below is a summary of the "white space" sensing test protocol:

- Prior to the start of tests at 10:00 a.m. ESPN deployed a battery of wireless microphones on the field. These microphones were a representative sample of the units used during ESPN Monday Night Football ("MNF") broadcasts, albeit far fewer than required at a broadcast MNF game.
- Pursuant to instructions received from OET, ESPN tuned the transmit frequencies on eleven (11) microphones to separate channels between 21 and 51 in the UHF.
- OET engineers then moved the Philips and I2R "white space" devices to four different test sites within the stadium complex. Specifically, the devices were deployed on the field at the 50-yard line, in a secure area on the outside of stadium, on a walkway facing the field on the stadium's upper deck, and within the press box.
- At each location OET ran an initial scan with microphones powered off, and a second scan with ESPN's microphones transmitting on the OET assigned channels noted above. Each device conducted one series of such scans.

With regard to test results, the device provided by Philips did not generate data at FedEx Field that demonstrates sensing technology is mature or will offer meaningful protection for incumbents in the VHF and UHF bands. On 7 out of 8 scans conducted at FedEx Field, the Philips device incorrectly determined that all UHF channels were occupied. The Philips device appeared to automatically “rubber stamp” channels as occupied, including channels that were clearly vacant. For example, on all 8 scans the Philips prototype wrongly determined that channel 37, which is dedicated to medical devices and radioastronomy and should always be reflected as a vacant “white space,” was occupied. From my observations, there is an open question whether the Philips device has any sensing capability at all based on its performance at FedEx Field.

With regard to the I2R device, the test results were not any more encouraging. On the first scan it missed 8 out of 11 transmitting microphones, on the second scan it missed 7 out of 11 microphones, on the third scan it missed 5 out of 11 microphones and on the third and final scan it missed 3 out of 11 microphones. In short, the I2R device failed to detect more than 50% of transmitting microphone signals by incorrectly identifying occupied channels as vacant, despite being in close proximity to the transmit sites (within 15-200 yards of the transmitting microphones) at all times.

Based on these results, sensing technology cannot be the foundation for protecting incumbent license holders. Of course, there are other issues with the proposed devices beyond the lack of sensing capability. First, we have yet to see, let alone test, the technology that supposedly will allow the devices to migrate to an unused frequency in a timely manner. A channel scan taking seconds, not to mention minutes, is not acceptable in an environment that demands response within microseconds. Second, we have not seen nor tested the technology that will inhibit the device’s transmissions if an unused frequency cannot be found. Third, ESPN has yet to witness a device that would provide protection to the high-gain antennas deployed in and around an event to retrieve the low-power microphone signal from the non sensing WSD.

In addition, ESPN would like to take this opportunity to urge the Commission to thoroughly test the prototype beacon devices recently submitted on behalf of Motorola and Adaptrum. Beacons rely exclusively on the same sensing technology that failed at FedEx Field, and have generally proven ineffective during tests in other real-world environments. A sensing “white space” device will only avoid a beacon it can identify. The beacon technology only increases the difficulty of the incumbent license holders’ finding and using available spectrum. Prior to ESPN’s opening Monday Night Football season, we coordinated 114 low-power frequencies in the local market. If ESPN used the beacon proposal, at the minimum, an additional 6 MHz (one TV channel) of valuable bandwidth would be required for incumbent protection. Given that the emissions of the proposed beacons resemble those of wireless microphones that sensing devices cannot reliably detect, ESPN has justified reservations whether existing sensing technology is up to the task. Moreover, the superficial beacon “demonstrations” conducted by Motorola and Adaptrum for FCC staff in recent weeks cannot be held out as evidence of beacon technology’s effectiveness or reliability. A mere assumption of success is not a basis for a decision that could result in irreversible consequences.

To the best of ESPN's knowledge, beacons have never been deployed in the television broadcast RF band as an interference avoidance mechanism for incumbent operators. Rigorous field tests will no doubt yield a wealth of practical knowledge that cannot be collected in a laboratory setting to aid the Commission in evaluating whether beacons are viable based on the current state of sensing technology. The Commission should not conclude field testing prematurely without properly evaluating beacons.

Respectfully submitted,

A handwritten signature in cursive script that reads "Jeffrey Willis" followed by a slanted line and the initials "SK".

Jeffrey Willis

Coordinating Technical Manager, ESPN